Charter
Engineering and Construction
Hydrology, Hydraulics and Coastal Community of Practice
(HH&C CoP)
October 6, 2005

1. CoP Name: Hydrology, Hydraulics and Coastal, HH&C CoP for short.

2. CoP Audience/Membership: The HH&C CoP exists within the framework of the USACE Engineering and Construction CoP. As such, it includes USACE engineers and scientists addressing the following technical subjects: Surface and groundwater hydrology, river hydraulics and sediment transport, hydrologic statistics and risk, cold regions hydrology and hydraulics, reservoir systems analysis, hydraulic design, hydroelectric power, water supply, navigation, dam safety, water control management, water quality, environmental restoration, and estuary, coastal and ocean engineering and processes. Membership is drawn from HQUSACE, districts, divisions, field offices, and support offices, research and development laboratories, and other entities as might be included on a case-by-case basis.

3. CoP Purpose/Functions: The HH&C CoP will be the steward of the body of knowledge constituting the professional practice of hydrology, hydraulics, and coastal engineering. The HH&C CoP will assume responsibility for documenting the state of practice, fostering and promoting growth and development of needed technology, providing access to subject matter experts, providing outreach to others, and establishing and operating mechanisms for promoting best practices and capturing and making available lessons learned.

4. CoP Membership: The HH&C CoP is comprised of the following entities:

a. Leader: HQUSACE Principal HH&C Engineer.

b. HH&C CoP Executive Advisory Committee. Committee comprised of senior representatives from MSC, research and development laboratories and support offices.

c. Members at Large: Noted in Paragraph 2. above.

d. Subject Matter Experts: Subset of c. that is comprised of the cadre of experts contained in the HH&C CoP area of expertise database housed in the Technical Excellence Network (TEN).

e. National Technical Committees/Boards/Groups: The four standing national technical committees, Coastal Engineering Research Board (CERB), and water control management group (CURG). The technical scope of the standing committees and CURG may be adjusted, or new committees developed, to ensure coverage of the full scope of the HH&C CoP responsibilities.

f. Research Community: The Engineer Research and Development Center (ERDC) research laboratories and the Institute for Water Resources, Hydrologic Engineering Center and their extended academic outreach sources, form this community.

4. Attachments to this charter define the HH&C CoP as of the Charter date. These attachments will be periodically revisited and updated, keeping the Charter up to update without requiring it be reissued. Attachments are:

a. HH&C Areas of Expertise.
b. Roles and responsibilities.
c. Leaders and principal officials.

6. Charter Signatures:

Jerry W. Webb, CECW-CE
Principal Hydrologic and Hydraulic Engineer

Don Basham, CECW-E
Chief Engineering Division

Hydrology, Hydraulics, and Coastal Community of Practice (HH&C CoP)

Roles and Responsibilities

October 6, 2005

1. HH&C CoP Lead: HQUSACE Principal Hydrologic and Hydraulic Engineer, serves as champion, spokesperson, and convener of activities of the CoP.

2. Executive Advisory Committee: MSC, laboratory, and support office senior staff representatives serving as the senior policy advisory body for activities of the CoP.

3. MSC POCs: Designated senior HH&C point of contacts responsible for representing CoP activities at the MSC level, ensuring coordination and communication across all elements within the MSC.

4. Laboratory and support office POCs: Designated senior HH&C point of contacts at laboratory and support offices, responsible for representing CoP activities within their respective organizations.

5. District POCs: Designated senior HH&C point of contacts responsible for representing CoP activities at the district level, ensuring coordination and communication across all elements within the district.

6. National technical committees, boards, and groups: The national standing committees of Hydrology; Channel Stabilization; Tidal Hydraulics, and Water Quality, the Coastal Engineering Research Board CERB), and the Corps Water Management System (CWMS) Users Representative Group (CURG) are incorporated into the CoP. The technical committees serve as special technical resources for the CoP, available to provide independent consultation on issues and problems within their respective technical areas. The CERB and CURG are special assets of the CoP focused on coastal processes and water control management.

7. Research community: The Engineer Research and Development Center (ERDC) research laboratories and the Institute for Water Resources, Hydrologic Engineering Center forms this community. The primary ERDC laboratories engaged in HH&C-related research include the Coastal and Hydraulics (CHL), Environmental (EL), and Cold Regions Research and Engineering (CRREL). Other supporting ERCD laboratories with interests in activities of the CoP are: Information Technology; Construction Engineering and Research; Topographic Engineering, and Geotechnical and Structures. The role of the research community is to advance the body of knowledge and state of practice for the CoP, and serve as technical resources for consultation and assistance on issues and problems within their respective mission areas.

8. Area of Expertise SME. Technical experts resident in HH&C CoP TEN database for designated sub-area of expertise. Acts as technical resource for Corps staff and officials in area of expertise, providing short consult/reference in response to inquiries.

Hydrology, Hydraulics, and Coastal Community of Practice (HH&C CoP)

Leaders and Principal Officials

October 6, 2005

1. HH&C CoP Lead: Jerry Webb, HQUSACE Principal Hydrologic and Hydraulic Engineer.

2. Executive Advisory Committee:

Chair: Darryl Davis, CEIWR-HEC (at large)
Co-chair: Joe Evelyn, CESPD
SWD: Ron Bell
NAD: Ralph Lamoglia
SAD: Chris Smith
MVD: SK Nanda
LRD: Stan Wisbith
NWD-NW: Jim Barton
NWD-MR: Larry Cieslik
POD: David Lau
CEIWR-HEC: Chris Dunn
ERDC - CHL: Jack Davis
ERDC-EL: Billy Johnson
ERCD-CRREL, Tim Pangburn,
HQUSACE: Jerry Webb

Executive Advisory Committee Corresponding Members

See Paragraph 6. below.

3. MSC POCs:

SWD: Ron Bell
NAD: Andrew Petallides
SAD: Kaiser Edmond
MVD: Eddie Brooks
SPD: Ed Sing
LRD: John Hunter
NWD: Al Swoboda
POD: David Lau

4. Laboratory and support office POCs:

Coastal and Hydraulics Lab: Bruce Ebersole
Cold Region Research and Engineering Lab: Kate White

Environmental Lab: Craig Fischenich
Hydrologic Engineering Center: Tom Evans

5. District POCs:

SWD

Galveston: Ron Meyers
Ft. Worth: Paul Rodman
Little Rock: Glen Raible
Tulsa: Russell Holeman

NAD

New York: Robert Alpern
New England: Mark Geib
Philadelphia: Glen Stevens
Baltimore: Rich Olin
Norfolk: Larry Holland

SAD

Wilmington, Savannah, & Charleston: Greg Williams
Jacksonville: Sean Smith,
Mobile: Doug Otto

MVD

New Orleans: Burnell Thibodeaux
Memphis: Dave Berretta
Vicksburg: Robert Simrall
St. Louis: Dennis Stephens
Rock Island: Marvin Martens
St. Paul: Mike Knoff

SPD

San Francisco: ST Su
Sacramento: John Carroll
Los Angeles: Joe Evelyn
Albuquerque: Bet Lotosky

LRD

Huntington: David Meadows
Pittsburg: James Kosky
Chicago: Dr. Tzuoh-Ying Su
Buffalo: Lawrence Sherman
Detroit: Scott Thieme
Louisville: Richard Pruitt
Nashville: John Hunter

NWD

Seattle: Marian Valentine
Portland: Bob Buchholz
Walla Walla: Mark Lindgren

Kansas City: Allan Tool
Omaha: Larry Buss

POD

Alaska: Ken Eisses
Honolulu: Jim Pennaz

6. National technical committees, boards, and groups:

Tidal Hydraulics Committee: Rob McAdory
Hydrology Committee: SK Nanda
Channel Stabilization Committee: Larry Banks
Water Quality Committee: Dave Shepp/Steve Ashby
Coastal Engineering Research Board: Charlie Chestnut
CWMS Users Representatives Group (CURG): Joe Evelyn

7. Area of Expertise SME TEN database: Tim Pangburn, ERDC-CRREL-NH

Hydrology, Hydraulics and Coastal Community of Practice
(HH&C CoP)
Areas of Expertise
6-Oct-05

Areas of Expertise	Areas of Expertise - Lead POC	Sub area
Surface water hydrology	Jeff Harris CEIWR-HEC-HH Tel: 530-756-1104 E-mail: David.J.Harris@usace.army.mil	Climate change Closed basin lakes Non-Corps hydrologic models Standard Project Flood Hydrologic modeling Infiltration and losses Precipitation analysis Real time rainfall/snowmelt runoff modeling Regional Analysis Snowmelt Spatially distributed modeling Urban Hydrology
Groundwater hydrology	Earl Edris CEERD-HF-H Tel: 601-634-3378 E-mail: Earl.V.Edris@erdc.usace.army.mil	Combined surface and subsurface water modeling Ground water investigations Groundwater recharge Monitoring wells Piping and seepage Subsurface drainage
Cold regions engineering	Kate White CEERD-RI Tel: 603-646-4187 E-mail: Earl.V.Edris@erdc.usace.army.mil	Cold regions water quality Glaciology Ice control structures Ice impacts Ice jams Ice modeling Ice-affected hydraulics Ice-impacted channel restoration Ice-impacted shoreline protection Ice-Sediment Transport Snow drift engineering and modeling Snowmelt flood forecasting
River hydraulics	Gary Brunner CEIWR-HEC-HH Tel: 530-756-1104 E-mail: Gary.W.Brunner@usace.army.mil	1-D modeling 2, 3-D modeling Bridges, culverts, and weirs Gated structures Computational numerical modeling Floodplain management and mapping Micromodeling Physical modeling Dam and levee breaching Navigation dams
Riverine erosion and sediment transport	Jack Davis CEERD-HV-T Tel: 601-634-3006 E-mail: Jack.E.Davis@erdc.usace.army.mil	Sediment modeling, 1-D Sediment modeling, 2-D and 3-D Bed and bank erosion Bridge Scour Debris production/yield and flow Debris/sedimentation basin design Slope protection and erosion control Erosion Control Structure (DEC Program) Freeze-thaw induced bank failure Land surface erosion Mobile boundary hydraulics Sedimentation retention studies
Statistics and risk	Beth Faber CEIWR-HEC-WR Tel: 530-756-1104 E-mail: Beth.A.Faber@usace.army.mil	Drought frequency analysis Flooding frequency analysis Flow duration Frequency of extreme events Risk analysis Stochastic hydrology Uncertainty in hydrologic forecasts Uncertainty in hydrologic relationships and models

Reservoir systems analysis	Joan Klipsch CEIWR-HEC-WM Tel: 530-756-1104 E-mail: Joan.D.Klipsch@usace.army.mil	Evaporation Induced surcharge ratings Operations research/optimization Reservoir regulation Rule curves Sedimentation/surveys/models System modeling
Water control management	Joe Evelyn CESPL-ED-H Tel: 213-452-3525 E-mail: Joseph.B.Evelyn@spl01.usace.army.mil	Data acquisition and management Drought management Real-time flow/stage forecasting Gaging stations, rainfall, river Lakes, water control management Water Control Plans Operation expertise Ponds and reservoirs Sustainable Rivers Project (COE/TNC) Corps of Engineers Water Management System Water data Water Resource Allocation
Hydraulic design	Chuck Tate CEERD-HF-HE Tel: 601-634-2120 E-mail: Charles.H.Tate@erdc.usace.army.mil	River engineering (channels and structures) Hydraulic structures (gates, valves, control structures) Conduit, culvert, and pipes Dams Irrigation and storm drainage design Levees, floodwalls and retaining walls Detention equipment Physical modeling/micro modeling Water distribution Fish Passage Pumping Stations
Coastal/estuarine hydraulic analysis	Bruce Ebersole CEERD-HF Tel: 601-634-3209	Modeling, coastal/estuary hydrodynamics Modeling, wave generation and transformation Inlet hydrodynamics and stability Tropical and extratropical storm waves Tropical and extratropical storm surge Surf zone waves and currents Tsunamis Wave/structure interactions Salinity intrusion Freshwater and saltwater diversions
Coastal/estuarine sediment and geology analysis	Jack Davis CEERD-HV-T Tel: 601-634-3006 E-mail: Jack.E.Davis@erdc.usace.army.mil	Barrier island overwash and breaching Beach & dune erosion Bluff erosion Nearshore dredged material mound stability & fate Sediment budgets Sediment transport, non-cohesive Sediment transport, cohesive and mixed Fluid mud Inlet morpology and stability Modeling, inlet, shoreline, beach change Modeling, mixed sediments, 2-D and 3-D Delta building and loss Wetland erosion Barrier island evolution and geology
Ecosystem restoration	John Hickey CEIWR-HEC-WR Tel: 530-756-1104 E-mail: John.T.Hickey@usace.army.mil	Abandoned mine land remediation Restoration Modeling/Monitoring Dam Removal River, Stream, and Wetlands Restoration Hydrology for Restoration Ecologically Sustainable Water Management Reservoir Systems Analysis/Modeling/Management Reservoir Re-regulation Water Quality Analysis/Modeling Economic Analysis/Modeling for Restoration Interagency and NGO Coordination Watershed Analysis/Modeling/Planning
Environmental	Meg Jonas	Aquatic resources

	CEERD-HC-RR Tel: 601-634-2763 E-mail: Margaret.M.Jonas@erdc.usace.army.mil	Ecosystem Management Analysis Ecosystem Management Modeling Model Linkage-H&H/Erosion & Sediment/Ecosystem Assessment/Mngt Riparian vegetation Riparian zones Threatened and Endangered Species Watershed Assessment Tools Watershed management Wetlands
Water quality	Barry W. Bunch CEERD-EP-W Tel: 601-634-3617 E-mail: Barry.W.Bunch@erdc.usace.army.mil	Agricultural, stormwater, wetland, urban runoff, water supply water quality Rivers, lakes, reservoir water quality Salinity management Thermal assessment/management Total dissolved gas analysis/management TMDLs Toxics management Use attainability analysis Water quality analysis/data mgmnt/standards/trading Modeling, water quality
Planning analysis	Chris Dunn CEIWR-HEC-WR Tel: 530-756-1104 E-mail: Christopher.N.Dunn@usace.army.mil	Plan formulation and evaluation Flood damage reduction measures Flood fighting Flood warning Levee certification Non-structural analysis Flood damage reduction models Interior flood control Integrated Water Resource Management Structure inventories
Coastal engineering	Joan Pope CEERD Tel: 703-428-6867 e-mail: Joan.Pope@hq02.usace.army.mil	Beach nourishment and beachfill design Inlet and Regional Sediment Management Innovative shore protection Construction materials Earth forces & geotechnical issues Erosion control structures, functional design Mining sediment for nourishment Runup & overtopping analysis Armor stability & impact force analysis Structural design
Dam safety	Jeff Harris CEIWR-HEC-HH Tel: 530-756-1104 E-mail: David.J.Harris@usace.army.mil	Dam safety studies Dam safety, breach analysis Dam safety, hydrology Dam Safety, risk analysis Inflow design floods Probable Maximum Flood
Geospatial	Tim Pangburn CEERD-RT Tel: 603-646-4296 E-mail: Timothy.Pangburn@erdc.usace.army.mil	Bathymetry DFIRM mapping and FEMA requirements Digital terrain analysis GIS-Hydraulics GIS- Coastal GIS-Hydrology Inundation mapping Mapping Remote sensing technologies and analysis Watershed Delineation
Dredging	Jim Clausner CEERD-HV-T Tel: 601-634-2009 E-mail: James.E.Clausner@erdc.usace.army.mil	Beneficial uses of dredged material Bypassing design & equipment Dredged material management Dredging process Equipment Modeling, dredged sediment processes
Coastal navigation	Rose Kress CEERD-HN Tel: 601-634-3665 E-mail: Rose.M.Kress@erdc.usace.army.mil	Channel alignment and stabilty Channel sedimentation Inlet and entrance channels Jetty and breakwater design Port and harbor design Wave/Current/Structure Impacts on Navigation Channel Design
Inland navigation	Sandra Knight	Hawser forces

	CEERD-HV-T Tel: 601-634-2693 E-mail: Sandra.K.Knight@erdc.usace.army.mil	Lock Approach Hydraulics Lock filling and emptying Lock gates Navigation hydraulic design Navigation locks & dam equipment Ship simulators for navigation channel design Training structures, wing dams and closing dams Vessel impacts on biological communities Vessel induced waves and currents on moored vessels, banks, and backwate
Hydropower	Bolyvong Tanovan CENWD-PDW-P Tel: 503-808-3973 E-mail: Bolyvong.S.Tanovan@nwd01.usace.army.mil	Hydropower Feasibility studies Hydropower FERC relicensing Hydropower system analysis and modeling Hydropower system operational planning Hydropower upgrade and rehabilitation -- economic justification Hydropower value and benefit impact studies
Water supply	JoAnn Duman CESWD-PDS-P Tel: 469-487-7065 E-mail: JoAnn.M.Duman@swd02.usace.army.mil	Water Supply Forecasting Water Supply Reallocation Studies
Field data acquisition and analysis	William Birkemeier CEERD-HF-F Tel: 252-261-6840 (ext. 229) E-mail: William.Birkemeier@erdc.usace.army.mil	Structural condition surveying River/stream gaging Bathymetric surveying and analysis Sub-surface surveying and analysis Wave measurements and analysis Water level and current measurements and analysis Sediment sampling and analysis Sediment erosion testing and analysis Water quality measurements and analysis Meteorology measurements and analysis